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REPORT NAME: RE 85(1) AMI OPERATIONAL SAVINGS REPORT

COMPANY NAME: PORTLAND GENERAL ELECTRIC

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If known, please select designation: RE (Electric) RG (Gas) RW (Water)
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Report is required by: OAR
 Statute
 Order Order No. 08-245
 Other

Is this report associated with a specific docket/case? No Yes
If Yes, enter docket number: UE 189

Key words: AMI CONDITIONS

If known, please select the PUC Section to which the report should be directed:

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Portland General Electric Company
121 SW Salmon Street • Portland, Oregon 97204
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November 2, 2012

Via Email

vikie.malkasian@state.or.us

Vikie Malkasian
Administrator
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PO Box 2148
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RE: AMI Operational Savings Report

Commission Order No. 08-245 (Docket No. UE 189) approved PGE's advanced metering infrastructure (AMI) program and adopted certain conditions as part of that approval (see Appendix A, pages 10-21). One condition requires that if PGE "does not file a general rate case within 12 months of the termination of the UE 189 tariffs, PGE will provide Staff and any interested party a report showing final capture of O&M savings so that the comparison of 'before' and 'after' states does not become too difficult."

On July 19, 2011, the OPUC Staff, the Citizens' Utility Board, and PGE agreed to change the time period of the AMI Operational Savings Report from the 2011 calendar year to two semi-annual reports: the first covering July 2011-December 2011, and the second covering January 2012-June 2012. Pursuant to this agreement and Order No. 08-245, PGE provides the attached AMI Operational Savings Report for the half-year ending June 30, 2012. (The spreadsheet and work papers are provided in electronic format only.)

If you have any questions or require further information, please call Alex Tooman at (503) 464-7623. Please direct all formal correspondence and requests to the following email address: pge.opuc.filings@pgn.com.

Sincerely,

Patrick G. Hager
Manager, Regulatory Affairs

PGH:jlt

cc: UE 189 Service List



AMI Operational Savings Report

(January 1, 2012 to June 30, 2012)

Introduction

Commission Order No. 08-245 (Docket No. UE 189) approved PGE's advanced metering infrastructure (AMI) program and adopted certain conditions as part of that approval (see Appendix A, pages 10-21). One condition requires that if PGE "does not file a general rate case within 12 months of the termination of the UE 189 tariffs, PGE will provide Staff and any interested party a report showing final capture of O&M savings so that the comparison of 'before' and 'after' states does not become too difficult." PGE did not file a general rate case in 2011, and thus provides this report.

If all aspects of AMI had been completed by December 31, 2010, as originally scheduled, calendar year 2011 would have been the first full year after completing AMI deployment. However, due to certain delays related to implementing IT process improvements, the AMI project close-out did not occur until June 30, 2011. Thus, many operational savings were not available until the second half of 2011.

On July 19, 2011, the OPUC Staff, the Citizens' Utility Board, and PGE (the Parties) agreed to change the time period of the AMI Operational Savings Report from the 2011 calendar year to two semi-annual reports: the first covering July 2011-December 2011 and the second covering January 2012-June 2012. For the purpose of comparison and savings calculation, the Parties agreed that calendar year 2007, escalated to 2011 for known cost increases, provides the appropriate baseline for establishing AMI project savings.

On July 31, 2012, PGE provided its first semi-annual report, covering July 2011-December 2011. After those six months, PGE accounted for approximately \$8.7 million in actual operational benefits. On an annualized basis, that equaled \$17.4 million.

Pursuant to PGE's agreement with Parties and Order No. 08-245, PGE provides the second semi-annual AMI Operational Savings Report for the half-year ending June 30, 2012.

Summary

Table 1, below, summarizes the net actual AMI Operational Benefits for the six-month period of January 2012 through June 2012:

Table 1, Summary of AMI Net Operational Benefits Jan-Jun 2012

Category	\$
Operational Benefits	
FTE reductions - straight time	5,068,904
Other labor/contractor reductions	100,427
Overtime reductions	203,337
Material and supplies	275,836
Fuel and maintenance	391,596
Late pay fees	1,115,724
Load forecast adjustment from UE 215 to reflect remote disconnects	309,144
Additional billings from lost revenue protection	473,771
Meter accuracy	780,737
Subtotal	8,719,475
Additional benefits	
Currently unavailable due to power price decrease	417,720
Outage management (i.e., pinging the meter)	205,531
Business Energy Tax Credits (BETCs)	193,770
UE 215 stipulated benefit	219,058
Gross AMI Benefits	9,755,554
Other Incremental Costs	
Non-Labor IT costs	(156,161)
Non-Labor communication costs	(119,082)
Non-Labor network data operations	-
Net AMI Benefits (for six months, Jan - Jun 2012)	9,480,311
Annualized AMI Benefits (based on the Jan - Jun 2012 period)	18,960,622
Projected Benefits – 2012	
Forecasted benefits – additional FTE reductions in 2012	398,215
Projected Annualized AMI Benefits 2012	19,358,837

Operational Benefits

FTE Reductions – Straight Time

Overall, PGE realized approximately 122 FTE reductions directly related to AMI deployment by end of June 2012. By taking the average salary for each department and multiplying by their respective FTE reductions or additions, a savings of approximately \$3.0 million in straight time labor was calculated. With the addition of labor loadings, FTE reductions accounted for approximately \$5.0 million in operational benefits between January and June 2012.

Other Labor/Contractors

In PGE's Billing Department, commitments were made to reduce straight-time Labor FTEs (incorporated in above FTE reductions) as well as contractors. Between the 2007 baseline year and 2012, the Billing Department realized approximately 4.5 contractor reductions directly related to AMI deployment. These reductions accounted for approximately \$0.100 million in operational benefits between January and June 2012.

Overtime

From the reductions in meter readers, there has been a corresponding reduction in overtime costs associated with meter reading. By comparing baseline 2007 overtime costs to 2012, PGE calculated that overtime reductions accounted for approximately \$0.203 million in operational benefits between January and June 2012.

Materials and Supplies

From the reductions in meter readers, there has been a corresponding reduction in materials and supplies cost in the Meter Reading Department. By comparing baseline 2007 materials and supplies costs to 2012, PGE calculated that materials and supplies costs accounted for approximately \$0.276 million in operational benefits between January and June 2012.

Fuel and Maintenance

With AMI fully deployed, there has been a corresponding reduction in fuel and automotive costs associated with meter reading. By escalating the baseline 2007 vehicle fuel and maintenance costs the benefits for fuel and maintenance reductions is determined. For the six-month time period of January 2012 through June 2012, reductions in fuel and maintenance costs accounted for approximately \$0.392 million in operational benefits.

Late Pay Fees

One of the significant qualitative benefits of AMI is the ability for customers to select their preferred billing cycle, so that their bill due date is more convenient. With the provision of this benefit, the Oregon administrative rules allow PGE to advance by approximately 30 days the date when customers are obligated to pay a late fee on past-due bills. By comparing the baseline 2007 Late Payment Fees to 2012, we determined that Late Pay Fees accounted for approximately \$1.1 million in operational benefits between January and June 2012.

Load Forecast Adjustment

In Docket No. UE 215, PGE's 2011 general rate case, we adjusted the residential load forecast by (20,411) MWhs to reflect the reduction in energy use that PGE would achieve from its remote disconnect meters. Because the expected reduction in arrearages has been obscured by the continued weakness in the Oregon economy, we cannot quantitatively establish this benefit from 2012 data. PGE has nevertheless maintained the load reduction to provide this benefit to customers. In UE 189, this benefit was estimated to be \$1.4 million with avoided energy costs priced at approximately \$66/MWh. In UE 215, when we applied the load reduction, energy costs had declined to approximately \$51/MWh, so that of the \$1.4 million energy-related benefit, \$0.3 million were based on "power prices... beyond PGE's control, we note this aspect of energy-related benefits as being temporarily unavailable but in the future, it is fully achievable." (See PGE Exhibit 300, page 17.) In 2012, energy prices have declined further to approximately \$27.96/MWh. Consequently, the load reduction benefit is \$0.309 million between January and June 2012 and the temporarily unavailable component of this energy-related benefit is \$0.418 million for half year period.

Additional Billings from Lost Revenue Protection

With AMI, PGE's Energy Recovery Department has been able to use newly acquired interval data to increase their success in the identification of energy theft and unaccounted for energy losses (i.e., lost revenue protection or LRP). By comparing the baseline 2007 "lost MWh avoided" to 2012, PGE identified an increase of approximately 9,636 MWh of energy losses that were avoided due to AMI. This accounts for approximately \$0.474 million in energy-related savings between January and June 2012.

Meter Accuracy

In conjunction with AMI deployment, PGE performed a study to estimate the improvement in meter accuracy between old mechanical meters and new solid state meters. The purpose of the study was to evaluate the new meters' ability to read lower levels of consumption and to correct for older mechanical meters running slower over time. From the study, PGE calculated an operational benefit of approximately \$0.781 million for the half-year period.

Additional Benefits

Currently Unavailable due to Power Price Decrease

As noted above, the decline in power prices has increased the amount of currently unavailable energy-related benefits associated with the UE 215 load forecast adjustment. For the January through June 2012 period, this totals \$0.418 million.

Outage Management

One of the benefits of AMI is the ability for PGE's repair and line dispatchers to "ping" the meters. Pinging the meter allows PGE to determine whether or not a meter has power without the need for a repair or line dispatcher to dispatch a crew. By comparing the average non-dispatch cost savings from 2007-2010 to the non-dispatch cost savings in 2012, we determined that pinging the meter accounted for approximately \$0.206 million in operational benefits between January and June 2012.

Business Energy Tax Credits (BETCs)

In UE 215, PGE's revenue requirement reflected \$1.0 million in state tax credits for BETC's associated with AMI. Based on the Oregon Dept. of Energy's preliminary approval, the BETCs were expected to total \$3.5 million and be available over five years as follows:

2011	\$1,000,000
2012	\$1,000,000
2013	\$500,000
2014	\$500,000
2015	\$500,000

Because PGE did not receive final approval of the BETCs until 2012, customers will receive the \$1.0 million tax credit benefit for at least three years and until PGE's next rate case goes into effect. By calculating the levelized, net present value of the BETC revenue requirement, we identify approximately \$0.194 million in operational benefits between January and June 2012.

UE 215 Stipulated Benefit

In UE 215, PGE stipulated to provide customers with an additional \$1.7 million reduction to O&M costs (see Commission Order 10-478, Appendix A, page 3). PGE customers will therefore receive this benefit until January 1, 2014, which is the earliest a new general rate case could go into effect. By calculating the levelized, net present value of the O&M reduction revenue requirement, we identify approximately \$0.219 million in operational benefits between January and June 2012.

Other Incremental Costs

Non-Labor IT Costs

The incremental Non-Labor IT costs reflect an increase in network and server infrastructure, annual Oracle support and maintenance licensing, and storage to cover the availability requirements for Meter Data Consolidator (MDC). The incremental Non-Labor IT costs between January and June 2012 are approximately \$0.156 million.

Non-Labor Communication Costs

The incremental Non-Labor Communication costs reflect the regulatory requirement that PGE perform outbound calls to customers that PGE remotely disconnects. PGE contracts with a third party vendor to perform outbound calls to meet the regulatory requirement. The incremental Non-Labor Communication costs between January and June 2012 were approximately \$0.119 million.

Non-Labor Network Data Operations

The incremental costs in Non-Labor Network Data Operations that reflect the annual support payments for Tower Gateway Basestation (TGB) maintenance, Regional Network Interface (RNI) software, and Radio Frequency licensing are zero because they are covered by credits received from PGE's meter vendor.

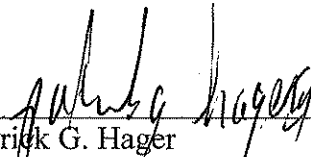
Conclusion

In UE 189, PGE estimated that the AMI operational benefits would be approximately \$18.2 million in 2011 and \$18.9 million in 2012 (the final UE 189 estimate was filed in November 2007). During the six-month time period (January 2012 to June 2012) with AMI fully deployed, PGE has accounted for approximately \$9.5 million in actual operational benefits. On an annualized basis, this equals \$19.0 million. Looking forward, PGE expects to reduce an additional 4 FTEs by year-end 2012. At fully-loaded, average wages these FTEs are expected to produce an additional \$0.4 million benefit, which would raise the annualized benefit total to \$19.4 million.

CERTIFICATE OF SERVICE

I hereby certify that I have this day caused the foregoing **AMI OPERATIONAL SAVINGS REPORT: JANUARY – JUNE 2012** to be served by electronic mail to those parties whose email addresses appear on the attached service list, and by First Class US Mail, postage prepaid and properly addressed, to those parties on the attached service list who have not waived paper service for OPUC Docket No. UE 189.

DATED at Portland, Oregon, this 2nd day of November, 2012.



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Summary of Actual AMI Operating Savings Jan-Jun 2012

Category	\$
Operational Savings	
FTE Reductions - Straight Time	5,068,904
Other labor/Contractors Reductions	100,427
Overtime Reductions	203,337
Material and Supplies	275,836
Fuel and Maintenance	391,596
Late Pay Fees	1,115,724
Load forecast adjustment from UE 215 to reflect remote disconnects	309,144
Additional Billings from Lost Rev Protection	473,771
Meter Accuracy	780,737
Subtotal	<u>8,719,475</u>
Additional benefits	
Currently unavailable due to power price decrease	417,720
Pinging the Meter	205,531
BETCs (levelized)	193,770
UE 215 stipulated benefit (levelized)	219,058
Gross AMI Benefits	<u>9,755,554</u>
Other incremental costs	
Non-Labor IT costs	(156,161)
Non-Labor communication costs	(119,082)
Non-Labor network data operations	-
Net AMI Benefits (for six months, Jan-Jun 2012)	<u>9,480,311</u>
Annualized AMI Benefits (based on the Jan-Jun 2012 period)	<u>18,960,622</u>
Projected Benefits - July-Dec 2012	
Forecasted benefits - additional FTE reductions in 2012	398,215
Projected Annualized 2012 AMI Benefits	<u>19,358,837</u>

FTE to Labor Reductions

	2012 Status Quo FTEs			
RC 451 Meter Readers		129.8		
RC 452 Field Collections		34.4		
RC 928 Network Data Operations		13.0		
RC 207 Meter Services		37.5		
RC 922 Res & Business Services		3.0		
RC 929 Advanced Metering Infrastructure		0.0		
Total 2011 Status Quo		<u>217.7</u>		
	2011 Jul-Dec FTE	2012 Jan-Jun FTE	Delta FTEs	Average Pay Jan-Jun 2012
RC 451 Meter Readers	-	-	(129.8)	24,621
RC 452 Field Collections	47.2	42.9	8.5	29,238
RC 928 Network Data Operations	17.4	14.8	4.4	38,087
RC 207 Meter Services	37.4	33.9	(0.1)	42,079
RC 922 Res & Business Services	-	-	(3.0)	58,887
RC 929 Advanced Metering Infrastructure	1.0	-	-	-
Additional FTEs				
RC 432 Call Center			1.0	23,618
RC 455 Energy Recovery			1.0	35,060
RC 757 IT Architecture			1.0	47,867
RC 747 IT Voice and Data Systems			1.0	38,765
RC 437 Billing			(2.0)	24,599
RC 332 Routine MX			(4.0)	28,645
Attributable to AMI			<u>(121.9)</u>	
Labor Loadings				
Total Labor Savings				

RC 452 (Head Count)	mid-year 2012	year-end 2012
Coordinators	5	5
Field Connect Reps	22	19
Meter readers	13	13
Supervisors	2	1
Lead specialist	-	-
Total	42	38
Delta		(4)
Average pay		58,475
2012 labor improvement (annualized)		(233,900)
Labor Loadings		(164,315)
Estimated 2012 improvement from RC 452		(398,215)

Jan-Jun 2012 Other Savings

<u>Operating Area</u>	<u>Reduction</u>	<u>\$Savings (Jan-Jun)</u>
Other Labor		
Jan-Jun 2007 RC 437	Contractors	89,162
Escalate to 2012		100,427
2012 Actuals (Jan-Jun)		-
Savings 2012 (Jan-Jun)		<u>100,427</u>
Overtime Benefit		
RC451	2007 Costs	140,155
RC452	2007 Costs	63,073
Subtotal 2007		203,228
Escalate to 2012		228,905
2012 Actuals (Jan-Jun)		25,569
Savings		<u>203,337</u>
Materials and Supplies		
RC 451 based on 2007 Pre-AMI	Non-Labor	245,101
Escalate to 2012		276,069
2012 Actuals (Jan-Jun)		232
Savings		<u>275,836</u>

Fuel & Vehicle Maintenance Cost (Meter Reading)	Jan-Jun 2007 Actuals	Jan-Jun 2012
2012 Status Quo (Allocated vehicle costs)	473,871	533,743
2012 Status Quo (miles driven)	475,758	<u>490,402</u>
Allocated per mileage rate		1.09
Actual Jan-Jun 2012 (miles driven)		130,604
Allocated per mileage rate*		<u>1.09</u>
Actual Jan-Jun 2012 (prorated allocation)		142,146
Jan-Jun 2012 Reduction due to AMI		<u><u>\$ (391,596)</u></u>

* Because 2012 no longer has an allocation specific to meter reading, we use the status quo allocated mileage rate times actual 2012 meter-reading miles to determine the comparable 2012 meter reading vehicle costs.

Energy Related benefits

	<u>2012</u>		
Remote Disconnect (RDC)			
Estimated MWh savings	20,411	At the meter	22,133 At the bus bar
Flat average Mid-C price per MWh	27.96 (a)		
Savings at the meter	<u>570,692</u>		
Line Loss Factor	8.34%		
Annual energy savings at the bus bar	<u><u>618,287</u></u>		
Power Price Delta			
Estimated price per MWh in Final UE 189 Work Papers	65.74		
Flat average Mid-C price per MWh	27.96 (a)		
Unavailable power price benefit	37.78		
MWh Savings for RDC	<u>22,113</u>		
Unavailable power price benefit for RDC	<u><u>835,440</u></u>		

Note:

(a) Based on forward curve from 2012 AUT Nov 15 Final Filing

Lost Revenue Protection (LRP)			
Estimated status quo baseline MWh	31,912		
2012 Lost MWh avoided	41,549		
Increment due to AMI	9,636		
Weighted average retail rate/MWh	98.33 (b)		
Annual LRP Savings	<u><u>947,542</u></u>		

Note:

(b) 2012 Weighted average retail rate (Schs 7 and 32) excluding customer component

Meter Accuracy	
Annual benefit based on meter-accuracy study	<u><u>1,561,473</u></u>

2012

\$ Benefit

Late Payment Fees

2007 Actuals (Jan-Jun)	(319,643)
Escalate to 2012	(329,482)
2012 Actuals (Jan-Jun)	(1,445,205)
Benefit	1,115,724

Pinging the Meter (Jan-Jun 2012)

Estimated Non-Dispatch Cost Savings	Amount
2007 - 2010 (Half Year Average)	\$ 283,219
Jan-Jun 2012	\$ 488,750
Savings (Jan-Jun 2012)	\$ 205,531

Labor Loadings - 2012

Employee Benefits	32.49%
Payroll Taxes	10.93%
PGE I&D (PGE Only)	6.62%
Incentives (PGE Only)	5.54%
Net periodic pension cost	11.23%
Employee Support	3.44%
Total Loadings	<u>70.25%</u>

Escalation

Factor	2006	2007	2008	2009	2010	2011	First Half 2012
Inflation							
Annual Rates		2.90%	3.80%	-0.30%	1.60%	3.10%	0.80%
Compound to 2012	112.44%	109.27%	105.27%	105.59%	103.92%	100.80%	
Customer Growth							
Average Customers	789,069	800,567	811,316	815,861	820,266	823,249	827,169
Annual Rates		1.46%	1.34%	0.56%	0.54%	0.36%	0.24%
Compound to 2012	104.58%	103.08%	101.71%	101.15%	100.60%	100.24%	
2012 status quo FTEs per UE 189 Stipulation							
RC 451 Meter Readers				129.8			
RC 452 Field Collections				34.4			
RC 928 Network Data Operations				13.0			
RC 207 Meter Services				37.5			
RC 922 Res & Business Services				3.0			
RC 929 Advanced Metering Infrastructure				-			
Total				217.7			

Other Incremental AMI Costs (Jan-Jun 2012)

Task	RC	Cost
IT Estimates for On-Going O&M		
RNI Network Maintenance (from RNI est)	741	8,538
IT MDC Server & Storage maint full year	747	39,822
Server hardware and software maint.	747	-
Oracle database maintenance	747	20,765
AMI Application Development	757	47,867
AMI Application Development	757	-
IT Communication O&M Support	741	38,765
Backhaul (Pots) costs @ 42 towers	741	30,156
Tower lease costs @ 42 towers	741	56,880
Labor Totals		86,632
Non-Labor IT Totals		<u>156,161</u>
RC 433 Estimates for On-Going O&M		
Contract for automated system to call customers before remote disconnect	433	<u>119,082</u>
RC 928 Estimates for On-Going O&M		
TGB Maintenance costs (NDO host job)	928	-
Sensusr software maintenance	928	-
Radio frequency license	928	-
RC 928 Totals		<u>-</u>

} Costs covered by Sensus' vendor credits

Status Quo - 2012	Est Wage	Est FTEs	Total W&S	Average
Manager	58.64	1	122,440	122,440
Supervisors (> \$25/hr)	46.90	5	536,183	97,932
Junion Readers (\$14-\$25 /hr)	22.35	120	5,600,682	46,672
Admin (< \$14/hr)	19.01	3	130,388	39,691
		130	6,389,693	49,242

Note: Calculation of Estimated Wages provided in UE 189 Confidential Work Paper Attachment A i.e., 2012 RC average wages not representative and 2007 already affected by plans for AMI

Status Quo - 2012	Est Wage	Est FTEs	Total W&S	Average
Manager	93.35	1	194,917	194,917
Analysts	55.55	1	115,983	115,983
Specialists	33.25	0	-	-
Admin	20.39	1	42,420	42,420
		3	353,320	117,773

Note: Calculation of Estimated Wages provided in UE 189 Confidential Work Paper Attachment A i.e., 2012 RC average wages not representative